

Notice of Allowability

Application No.

09/465,679

Examiner

Carramah J. Quiett

Applicant(s)

UOMORI ET AL.

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/13/2004.
2. ☒ The allowed claim(s) is/are 1-5, 7-10 and 24.
3. ☒ The drawings filed on 12/17/04 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Effective immediately, the application is assigned to examiner C. J. Quiett. Please include the new examiner's name in the caption or heading of any communication submitted thereafter. Your cooperation in this matter will assist in the timely processing of the submission and is appreciated by the Office.

Allowable Subject Matter

1. Claims 1-5, 7-10, and 24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 is allowed because the prior art does not teach or fairly suggest –

(Currently Amended) A rangefinder for obtaining information about the three-dimensional location of an object by projecting light onto the object and receiving part of the light that has been reflected from the object, the rangefinder comprising:

a light source for projecting the light on the object,

a shutter positioned between the light source and the object which can open and close freely and blocks the light that has been projected from the light source when closed,

a camera for receiving the part of the projected light that has been reflected from the object;

a distance-measuring sensor for measuring the distance to the object, and

a controller for controlling optical output power of the light source and/or exposure conditions of the camera based on range information about the object, wherein the controller uses the output of the distance-measuring sensor as an item of the range information about the object, and

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wherein the controller selectively controls the open and closed states of the shutter to at least prevent damage to the object when the object is positioned close to the light source.

Claims 2-5 are allowed because they are each dependent on claim 1. Please read the reasons for allowance of claim 1.

Claim 7 is allowed because the prior art does not teach or fairly suggest –

(Currently Amended) A rangefinder for obtaining information about the three-dimensional location of an object by projecting light onto the object and receiving part of the light that has been reflected from the object, the rangefinder comprising:

a light source for projecting the light on the object,

a shutter positioned between the light source and the object which can open and close freely and blocks the light that has been projected from the light source when closed,

a camera for receiving the part of the projected light that has been reflected from the object;

a controller for controlling optical output power of the light source and/or exposure conditions of the camera based on information about the level of a video signal output from the camera,

wherein the controller selectively controls the open and closed states of the shutter to at least prevent damage to the object when the object is positioned close to the light source.

Claims 8-10 are allowed because they are each dependent on claim 7. Please read the reasons for allowance of claim 7.

Claim 24 is allowed because the prior art does not teach or fairly suggest –

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(Currently Amended) A rangefinder for obtaining information about the three-dimensional location of an object by projecting light onto the object and receiving part of the light that has been reflected from the object, the rangefinder comprising:

a light source for projecting the light on the object;

a camera for receiving the part of the projected light that has been reflected from the object; and

a controller for controlling optical output power of the light source and exposure conditions of the camera,

wherein the controller sets the exposure conditions, in a first interval during which a range image is captured, such that an intensity of incoming light is relatively low and the optical output power sufficiently high that the range image can be captured with the exposure conditions, and

wherein the controller sets, in a second interval during which a color image is captured, the exposure conditions such that the intensity of incoming light is relatively high and the optical output power is off.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (703) 305-0566.

The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.J.Q.

Nov. 23, 2004



NGOC-YEN VU
PRIMARY EXAMINER